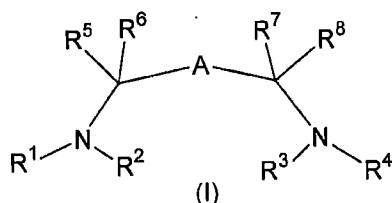


**Amendments to the Claims:** This listing of claims will replace all prior versions, and listings, of claims in the application.

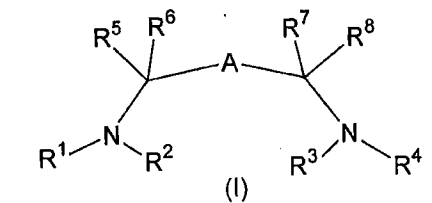
Listing of Claims:

1. (Currently Amended) A chiral catalyst comprising the reaction product of a ruthenium compound, a chiral bis(phosphine) selected from P-Phos, tol-P-Phos and xyl-P-Phos, and a chiral diamine of formula (I)



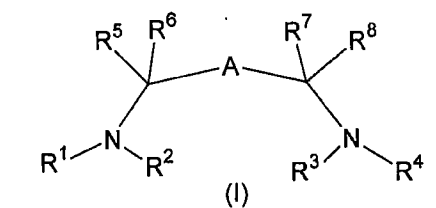
in which  $R^1$ ,  $R^2$ ,  $R^3$  and  $R^4$  are independently hydrogen, a saturated or unsaturated alkyl, or cycloalkyl group, an aryl group, or a urethane or sulphonyl group and  $R^5$ ,  $R^6$ ,  $R^7$  and  $R^8$  are independently hydrogen, a saturated or unsaturated alkyl or cycloalkyl group, or an aryl group, at least one of  $R^1$ ,  $R^2$ ,  $R^3$  and  $R^4$  is hydrogen and A is a linking group consisting of ~~comprising~~ one or two substituted or unsubstituted carbon atoms.

2. (Canceled)
3. (Currently Amended) A catalyst according to claim 1 wherein  $R^1$ ,  $R^2$ ,  $R^3$  and  $R^4$  are the same or different and are selected from hydrogen, methyl, ethyl, isopropyl, cyclohexyl, phenyl and 4-methylphenyl groups.
4. (Currently Amended) ~~A catalyst according to claim 1~~ A chiral catalyst comprising the reaction product of a ruthenium compound, a chiral bis(phosphine) selected from P-Phos, tol-P-Phos and xyl-P-Phos, and a chiral diamine of formula (I)



in which R<sup>1</sup> and R<sup>2</sup> are independently hydrogen, a saturated or unsaturated alkyl or cycloalkyl group, an aryl group, a urethane or sulphonyl group, wherein R<sup>1</sup> and R<sup>2</sup> are linked or R<sup>3</sup> and R<sup>4</sup> are linked so as to form a 4 to 7-membered ring structure incorporating the nitrogen atom, and R<sup>5</sup>, R<sup>6</sup>, R<sup>7</sup> and R<sup>8</sup> are independently hydrogen, a saturated or unsaturated alkyl or cycloalkyl group or an aryl group, at least one of R<sup>1</sup> and R<sup>2</sup> is hydrogen and A is a linking group consisting of one or two substituted or unsubstituted carbon atoms.

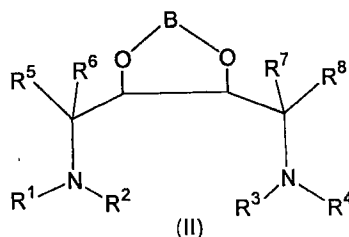
5. (Currently Amended) A catalyst according to claim 1 wherein R<sup>5</sup>, R<sup>6</sup>, R<sup>7</sup> and R<sup>8</sup> are the same or different and are selected from hydrogen, methyl, ethyl, propyl, iso-propyl, butyl, iso-butyl, sec-butyl, tert-butyl, cyclohexyl and/or substituted or unsubstituted phenyl and/or naphthyl groups.
6. (Currently Amended) A catalyst according to claim 1 A chiral catalyst comprising the reaction product of a ruthenium compound, a chiral bis(phosphine) selected from P-Phos, tol-P-Phos and xyl-P-Phos, and a chiral diamine of formula (I)



in which R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> are independently hydrogen, a saturated or unsaturated alkyl or cycloalkyl group, an aryl group or a urethane or sulphonyl group and R<sup>5</sup>, R<sup>6</sup>, R<sup>7</sup> and R<sup>8</sup> are independently hydrogen, a saturated or unsaturated alkyl or cycloalkyl group, an aryl group, or a group forming a ring structure with A, at least one of R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> is hydrogen and A is a linking group consisting of one or two substituted or unsubstituted carbon atoms, wherein one or more of R<sup>5</sup>, R<sup>6</sup>, R<sup>7</sup> and/or R<sup>8</sup> form one or more ring structures with the linking group A.

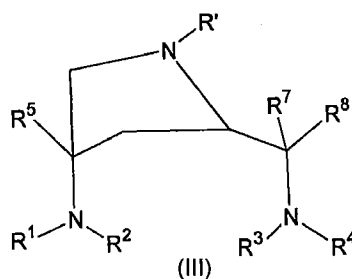
7. (Currently Amended) A catalyst according to claim 1 wherein a substituting group on at the carbon atom of linking group A is alkyl (C1-C20), alkoxy (C1-C20) or amino or forms one or more ring structures incorporating one or more carbon atoms making up the linking group.

8. (Currently Amended) A catalyst according to claim 1 wherein the chiral diamine is of formula (II)



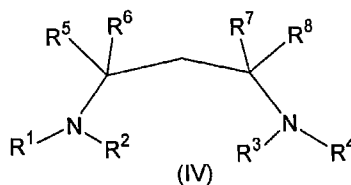
wherein B is a linking group consisting of~~comprising~~ one or two substituted or unsubstituted carbon atoms.

9. (Currently Amended) A catalyst according to claim 8 wherein  $R^1, R^2, R^3, R^4$  are hydrogen,  $R^5, R^6, R^7$  and  $R^8$  are hydrogen or alkyl groups and B comprises  $C(CH_3)_2$  or  $(CH_3)(OCH_3)C-C(CH_3)(OCH_3)(CH_3)(OCH_3)C-C(CH_3)(OCH_3)$ .
10. (Currently Amended) A catalyst according to claim 8 wherein the chiral diamine is ~~selected from 3-aminomethyl-5,6-dimethoxy-5,6-dimethyl[1,4]-dioxan-2-yl]-methylamine~~  
~~3-Aminomethyl-5-6-dimethoxy-5-6-Dimethyl[1,4]-dioxan-2-yl]-methylamine~~ (DioBD) or 2,3-O-isopropylidenebutane-1,4-diamine (DAMTAR).
11. (Currently Amended) A catalyst according to claim ~~61~~ wherein the chiral diamine is of formula (III)

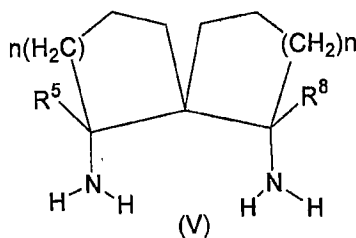


wherein  $R'$  is a protecting group.

12. (Currently Amended) A catalyst according to claim 11 wherein  $R^1$ ,  $R^2$  and  $R^5$  are hydrogen,  $R^3$  and  $R^4$  are hydrogen or alkyl,  $R^7$  and  $R^8$  are hydrogen, alkyl or aryl and  $R^6$  is selected from an alkyl, aryl, carboxylate, amido or sulphonate protecting group.
13. (Currently Amended) A catalyst according to claim 11 wherein the chiral diamine is 4-~~Amino~~amino-2-aminomethylpyrrolidine-1-carboxylic acid ~~tert~~tert-butyl ester (PyrBD).
14. (Previously Presented) A catalyst according to claim 1 wherein the chiral diamine is of formula (IV)



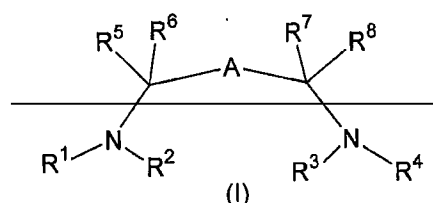
15. (Original) A catalyst according to claim 14 wherein  $R^1$ ,  $R^2$ ,  $R^3$ ,  $R^4$ ,  $R^6$ ,  $R^7$  are hydrogen and  $R^5$  and  $R^8$  are aryl or substituted aryl groups.
16. (Original) A catalyst according to claim 14 wherein the chiral diamine is Diphenyl-1,3-propanediamine (Dppn).
17. (Currently Amended) A catalyst according to claim ~~6~~1 wherein the chiral diamine is of formula (V).



wherein  $n = 1$  or  $2$ .

18. (Original) A catalyst according to claim 17 wherein  $R^5$  and  $R^8$  are hydrogen.
19. (Currently Amended) A method for the asymmetric hydrogenation of ketones and imines comprising contacting a ketone or imine with a strong base and ~~at~~the chiral

~~catalyst of claim 1 comprising the reaction product of a ruthenium compound, a chiral bis(phosphine) selected from P-Phos, tol-P-Phos or xyl-P-Phos and a chiral diamine of formula (I)~~



~~in which R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup> or R<sup>4</sup> are independently hydrogen, a saturated or unsaturated alkyl, or cycloalkyl group, an aryl group, a urethane or sulphonyl group and R<sup>5</sup>, R<sup>6</sup>, R<sup>7</sup> or R<sup>8</sup> are independently hydrogen, a saturated or unsaturated alkyl or cycloalkyl group, or an aryl group, at least one of R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup> or R<sup>4</sup> is hydrogen and A is a linking group comprising one or two substituted or unsubstituted carbon atoms.~~

20. (Currently Amended) The method according to claim 19, wherein the ketone or imine comprises is an alkyl ketone of formula RCOR' in which R and R' are substituted or unsubstituted, saturated or unsaturated C1-C20 alkyl or cycloalkyl which may be linked and form part of a ring structure.
21. (New) A method for the asymmetric hydrogenation of ketones and imines comprising contacting a ketone or imine with a strong base and the chiral catalyst of claim 4.
22. (New) The method according to claim 21, wherein the ketone or imine comprises an alkyl ketone of formula RCOR' in which R and R' are substituted or unsubstituted, saturated or unsaturated C1-C20 alkyl or cycloalkyl which may be linked and form part of a ring structure.
23. (New) A method for the asymmetric hydrogenation of ketones and imines comprising contacting a ketone or imine with a strong base and the chiral catalyst of claim 6.
24. (New) The method according to claim 23, wherein the ketone or imine comprises an alkyl ketone of formula RCOR' in which R and R' are substituted or unsubstituted, saturated or unsaturated C1-C20 alkyl or cycloalkyl which may be linked and form part of a ring structure.